P0RSF
11.3.31.1.1

COR

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

RECORD OF DECISION AMENDMENT

To: Neil Mullane, NWR Division Administrator

From: Rod Struck, R.G.
Cleanup & Portland Harbor – NWR

CC: Mike Rosen, Cleanup & Portland Harbor Manager – NWR
Tom Gainer, P.E. Cleanup & Portland Harbor – NWR
Jennifer Peterson, Cleanup & Portland Harbor – NWR
Port of Portland Marine Terminal 1 South (ECSI No. 2642)

Date: October 31, 2002

Subject: Staff Report
Proposed Record of Decision Amendment
Port of Portland Terminal 1 South
Portland, Oregon
ECSI No. 2642

INTRODUCTION

This document presents the Oregon Department of Environmental Quality's (DEQ's) proposed amendment to the "*Record of Decision –Selected Remedial Action – Port of Portland Marine Terminal 1 South – Portland, Oregon – ECSI No. 2642*," (ROD) dated September 26, 2002. The ROD presents DEQ's selected remedial action for soil and groundwater contamination at the Port of Portland's (POP) Terminal 1 South (T1S) facility, located at 2100 NW Front Avenue Portland, Oregon. The site was divided into three parcels which are defined in the ROD.

The purpose of this amendment is to modify the selected cleanup objectives for the shallow (0 to 3 feet below ground surface (bgs)) soil to reflect risks to urban residents consistent with the planned future use of the property. The ROD set cleanup levels protective of single-family residences, rather. Circumstances that gave rise to the need for this amendment include:

- In August and September 2002, the Port of Portland excavated 4,489 cubic yards of soil contaminated with polynuclear aromatic hydrocarbons (PAHs) and total petroleum hydrocarbons (TPH) from Parcel 2. Soil above residential cleanup levels was removed from 0-3 feet bgs. However, residual soil contamination in near-surface soil (0 to 3 feet bgs) did not meet the ROD specified residential cleanup level for benzo(a)pyrene for individual samples or for the upper bound exposure point concentration.

- Soils proposed for excavation in Parcel 2 (Area B) were removed in accordance with the ROD and the *Terminal 1 South Removal Work Plan – Portland, Oregon* (Hart Crowser, June 2002). Contaminated soil was disposed of off-site at a DEQ permitted landfill.

- Potential risks to urban residents were calculated using DEQ recommended exposure parameters. Evaluation of potential risks associated with near-surface (0 to 3 feet bgs) soil to future urban residents resulted in acceptable risks for all contaminants of concern. Calculation of upper bound exposure concentration demonstrated the protective soil concentration was achieved for the defined exposure unit.

- DEQ's Environmental Cleanup Rules require consideration of "reasonably likely" future land uses and exposure scenarios. DEQ and the Port believe the urban resident scenario more accurately reflect potential risks associated with the planned future use of the property than the cleanup levels protective of single-family residences used in the ROD.

The ROD was based on the administrative record for this site and this amendment will become part of the administrative record. An index of the administrative record index is presented in ROD. The administrative record is available to the public for review by appointment during regular business hours at DEQ's Northwest Regional Office in Portland, Oregon.

SUMMARY OF SITE HISTORY AND CONTAMINATION PROBLEMS

The T1S facility is located at 2100 NW Front Avenue in Portland, Oregon. The site consists of approximately 21 acres located northwest of Interstate 405 (Fremont Bridge), northeast of NW Front Avenue, southeast of Slip No. 2, and southwest of the Willamette River. Historically, the facility was used for staging of lumber, logs, paper products, steel containers, and bagged grain. Site structures were demolished in the summer of 2002. The property is scheduled for redevelopment for urban residential and commercial purposes.

The T1S site is located at river mile 11, upstream of what is known as the Portland Harbor, a six-mile reach of the Willamette River between Sauvie Island and Swan Island (river miles 3.5 to 9.2). A 1997 study by DEQ and the U.S. Environmental Protection Agency identified elevated levels of hazardous substances in shallow, near-shore sediments throughout the Portland Harbor. A Remedial Investigation (RI) and Feasibility Study (FS) of the initial study area (ISA) of Portland Harbor sediments is currently being performed under EPA oversight by a group of potentially responsible parties.

The nature and extent of soil and groundwater contamination was defined during the site characterization activities described in the Remedial Investigation (RI) report (Hahn and Associates, 2001a, 2001b, and 2002). Soil contamination above DEQ risk-based screening criteria was found on Parcels 2 (Area B) and 3 (Area A). Contaminants of concern include arsenic, lead, PAHs and TPH. Specific PAHs included: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Contamination at the facility is suspected to be from historic releases, spills and a dry well.

Contamination detected on Parcel 1 (Area C) was evaluated and it was determined that the low level contamination did not pose an unacceptable risk to human health or the environment. DEQ issued a No Further Action (NFA) finding for Parcel 1 in August 2002.

SELECTED REMEDY

The selected remedial action addresses arsenic, lead, PAH and TPH contamination in soil at the T1S facility. The selected action for the facility consists of the following elements:

- Removal of contaminated soil above risk-based soil cleanup levels:
  - Removal of soil above cleanup levels protective of future site residents between 0 and 3 feet bgs; and
  - Removal of soil above levels protective of construction workers and trench workers between 3 and 15 feet bgs.

- Institutional controls are required to assure long-term protection of human health and the environment. The institutional controls will consist of a deed restriction that:
  - Requires notification of future landowners, occupants, and workers of the presence of soil contamination remaining following the removal activities; and
  - Requires that soil excavated in the future below 3 feet bgs be managed in accordance with the selected remedy. Soil placed within 3 feet of the land surface must meet residential cleanup levels.

The Remedial Action was selected in accordance with Oregon Revised Statutes (ORS) 465.200 through 465.455, Oregon Administrative Rules (OAR) Chapter 340, Division 122, Sections 010 to 140. DEQ's notice of the proposed remedial action was published in the Oregon Secretary of State's Bulletin and The Oregonian on July 1, 2002. A public comment period was held July 15 through August 15, 2002. No comments were received. Notice of DEQ's remedy selection was published on October 1, 2002.

PROPOSED RECORD OF DECISION AMENDMENT

The proposed amendment modifies the remedial action objective (RAO) for future site residents of Parcels 2 and 3 (Areas B and A, respectively). The baseline risk assessment (Hart Crowser, 2002) indicated that unacceptable risk results to future residents were primarily associated with direct contact with soil. The chemicals resulting in unacceptable risk include PAHs, arsenic, and lead.

This amendment is proposed to more accurately reflect potential risks to future site urban residents. The urban residential scenario assumes children and adults will have less contact with surrounding soil than they would have if they were living in a single-family residence with a yard and gardens. The significant difference between an urban resident scenario and a single-family residential scenario is a reduced exposure frequency, which indicates how many days per year a person is expected to be exposed to contaminated soil, and exposure duration, which indicates how many years exposure is expected to occur. An urban resident is assumed to be exposed to contaminated soil (i.e., exposure frequency) every day in the summer or 90 days per year compared to 350 days per year for a single-family residential scenario. Urban residents are assumed to be exposed for a period of 11 years (i.e., exposure duration) compared to an exposure period of 24 years for a residential adult. These two changes more accurately reflect potential risks to children and adults living in the proposed mixed residential (apartments, high rise condominiums, etc.)/commercial development planned for the site. Other changes incorporated into the urban residential risk evaluation were made to reflect current U.S. Environmental Protection Agency (EPA) guidance on dermal exposure and correlations between body weight to other exposure factors. These include changes in inhalation rate, soil adherence factor, and incidental soil ingestion rate.

DEQ proposes to revise the cleanup levels for near surface (0 to 3 feet bgs) soil to be protective of future urban residents. The revised near-surface cleanup levels result in a lifetime excess cancer risk less than 1×10^{-6} for individual carcinogens and 1×10^{-5} for multiple carcinogens for exposure of future urban residents to near-surface soil contamination (via ingestion, dermal contact, or particulate inhalation).

The proposed cleanup goals for near-surface soil (0 to 3 feet bgs) for the protection of future urban residents are:

- Lead 400 mg/kg
- Arsenic 5.3 mg/kg[1]
- Benzo(a)anthracene 2.9 mg/kg
- Benzo(a)pyrene 0.29 mg/kg
- Benzo(b)flouranthene 2.9 mg/kg
- Dibenzo(a,h)anthracene 0.29 mg/kg
- Indeno(1,2,3-cd)pyrene 2.9 mg/kg
- TPH 750 mg/kg

Cleanup levels for subsurface soil (3 to 15 feet bgs) are not being revised.

Institutional controls will be placed on areas of the subject site that DEQ determines require long-term management following the soil removal activities to assure protection of human health and the environment.

[1] The cleanup level is based on the site-specific background concentration calculated for the T1S Facility.

STATUTORY DETERMINATIONS

Considering the new information developed during the remedial action on Parcel 2 and the evaluation of potential risks to future urban residents, DEQ believes that the remedy remains protective of human health and the environment and does so at an additional benefit of time and cost. The revised remedy is permanent, effective, implementable, and cost reasonable. The revised remedy is comparable to the originally selected action with respect to their effectiveness, long-term reliability, implementability, and implementation risk. In light of the potential risks to urban residents, the revised remedy is appropriate for the same reasons cited in the ROD. The revised remedy is, however, more cost-reasonable than the original remedy.

RECOMMENDATIONS

The Voluntary Cleanup Program (VCP) reviewed the existing environmental information for the T1S facility. Based on this review, it is proposed that the residential cleanup values set in the ROD should be amended for both Parcels 2 (Area B) and 3 (Area A) to reflect potential risks to urban residents consistent with the planned future use of the property.

The following steps outline the process for approving and implementing the ROD amendment:

1. DEQ's VCP approves the proposed amendment.
2. VCP would then provide notice to the public of DEQ's proposed amendment on November 1 and receive public comment between November 1 and December 2, 2002.
3. After completion of the public comment period and consideration of public comments, if any, VCP would prepare a ROD amendment documenting the decision for signature by DEQ's Northwest Region Division Administrator.
4. The signed amendment would then be sent to the Port of Portland and the prospective purchaser of the property (Ralston Development) and VCP will issue a public notice of the approved amendment.
5. If the Amendment is signed, VCP will approve the completed cleanup of Parcel 2, following DEQ receipt of notice from Multnomah County that the required Easement and Equitable Servitude has been recorded.
6. Following approval of the cleanup, VCP will issue a public notice.
7. The revised cleanup levels will be used in evaluating the soil removal to be performed at Parcel 3 starting in November 2002.